

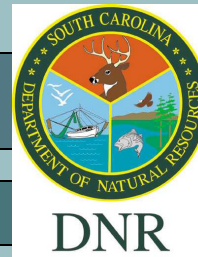
Water is a Natural Resource



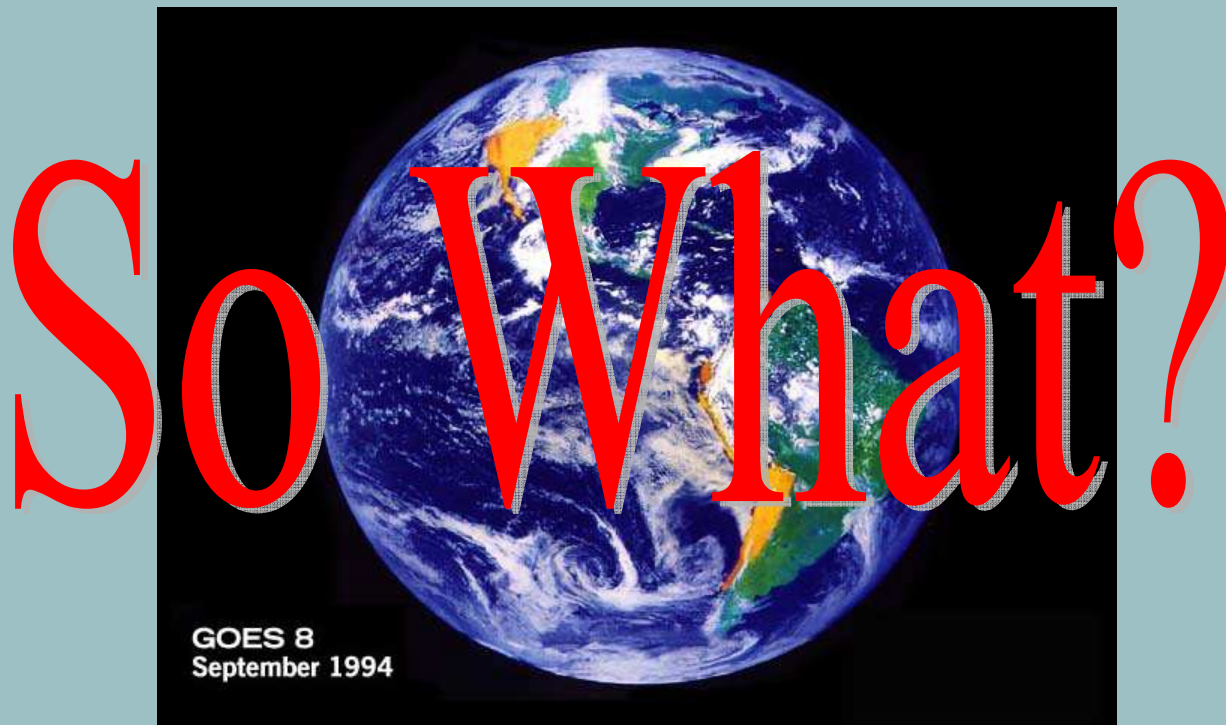
Rebekah Szivak

Coastal Training Program
ACE Basin National Estuarine
Research Reserve

SzivakR@dnr.sc.gov



- Water is the Earth's most abundant resource, but 97% of Earth's water is salt water
- Of the 3% fresh water, only 1% is available for human use

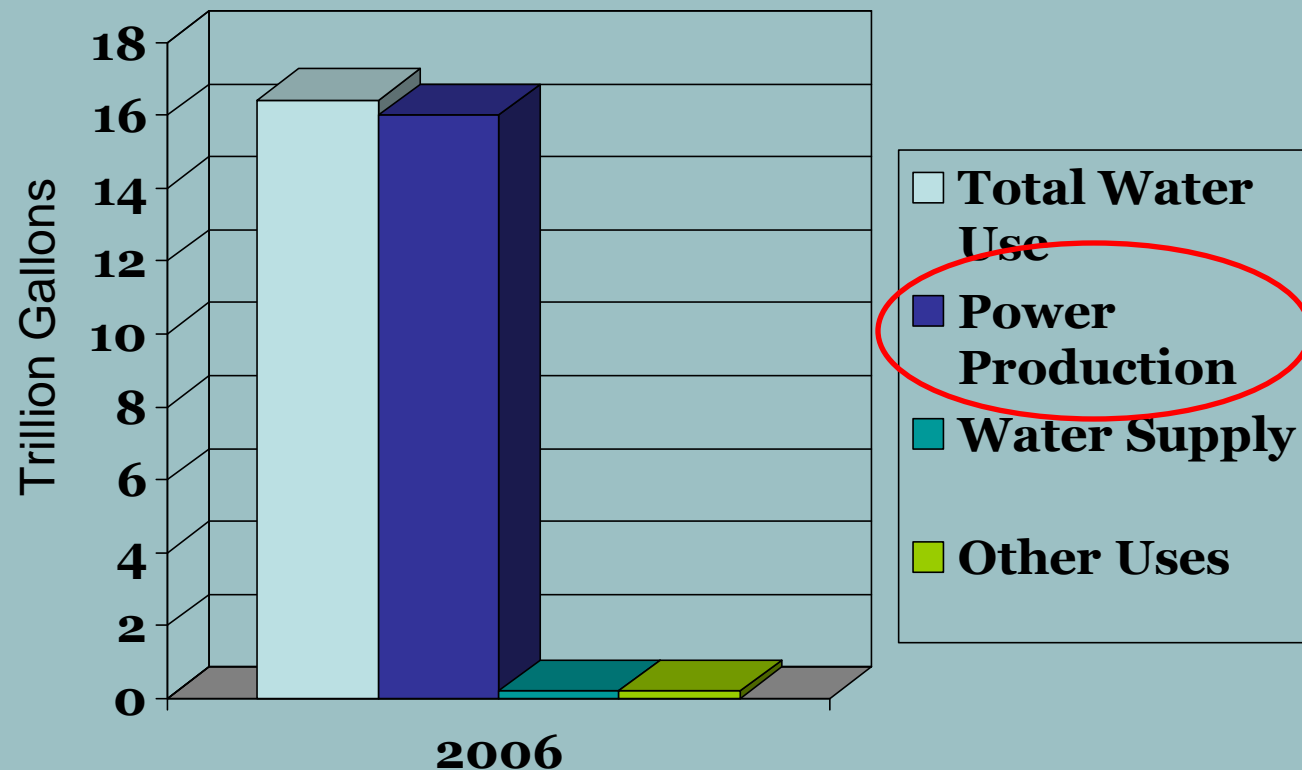


Why conserve water anyway?

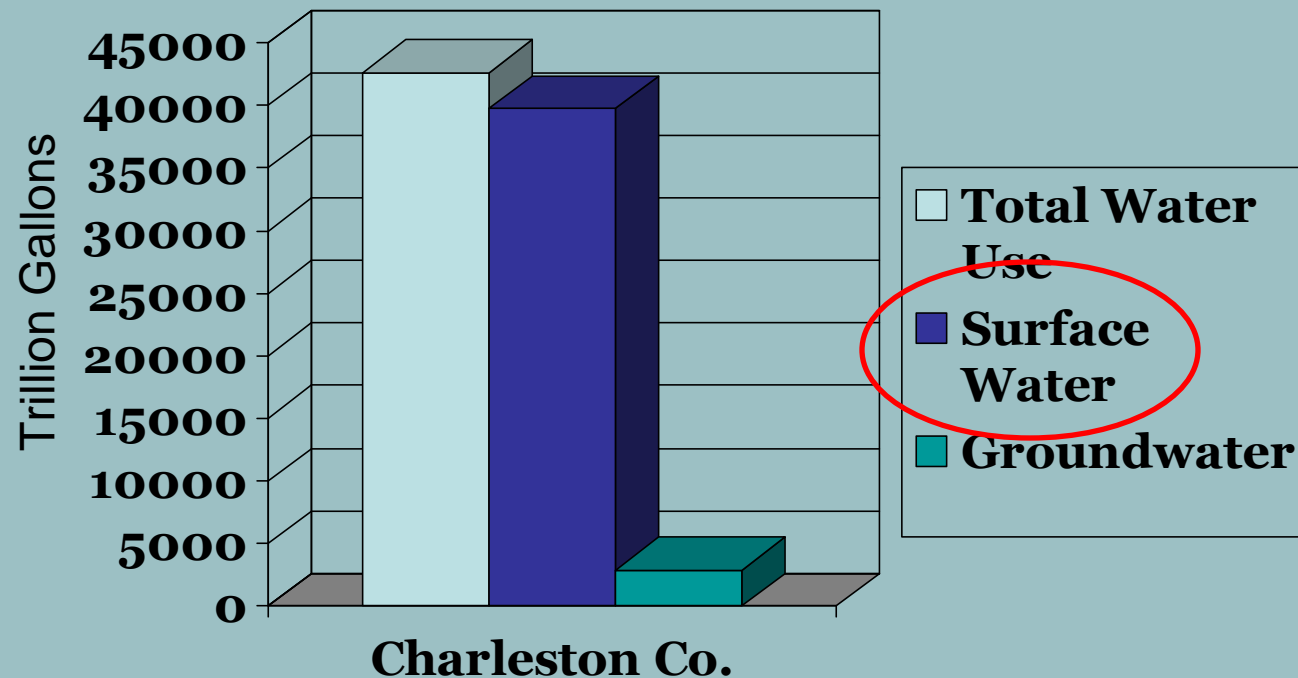
- Freshwater is important for:
 - Water Supply
 - Energy Production
 - Water Quality
 - Habitat Health



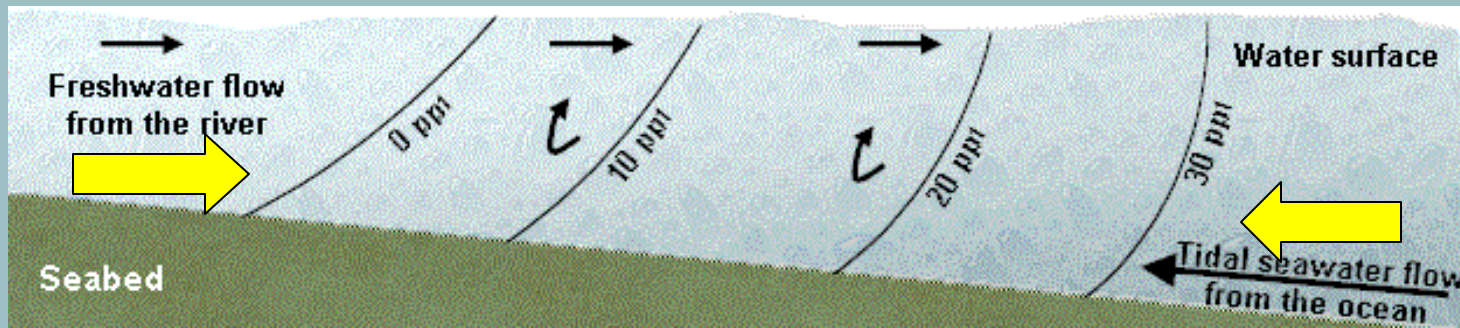
Statewide Water Use by Use Type



Charleston County Water Use



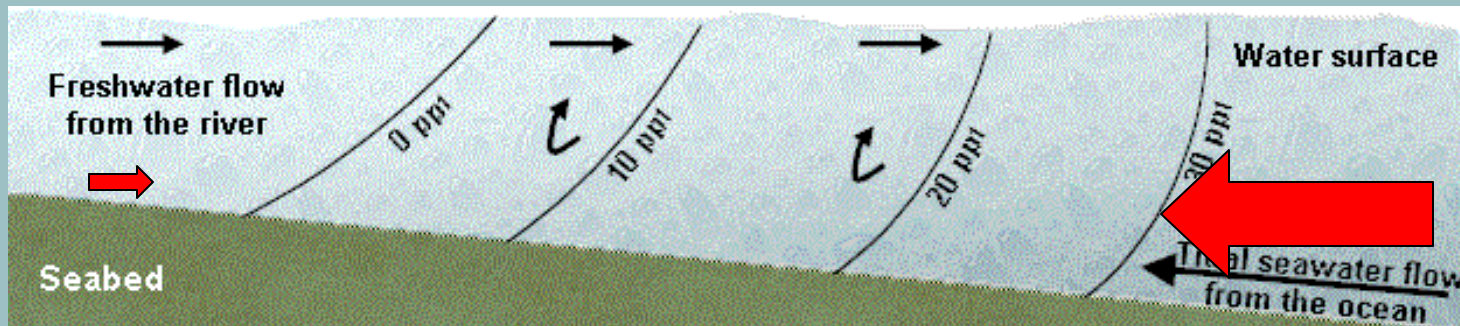
What happens when there isn't enough freshwater?



Mixing of fresh and salt water produces specific environmental factors – salinity, dissolved oxygen levels, temperature, nutrient levels



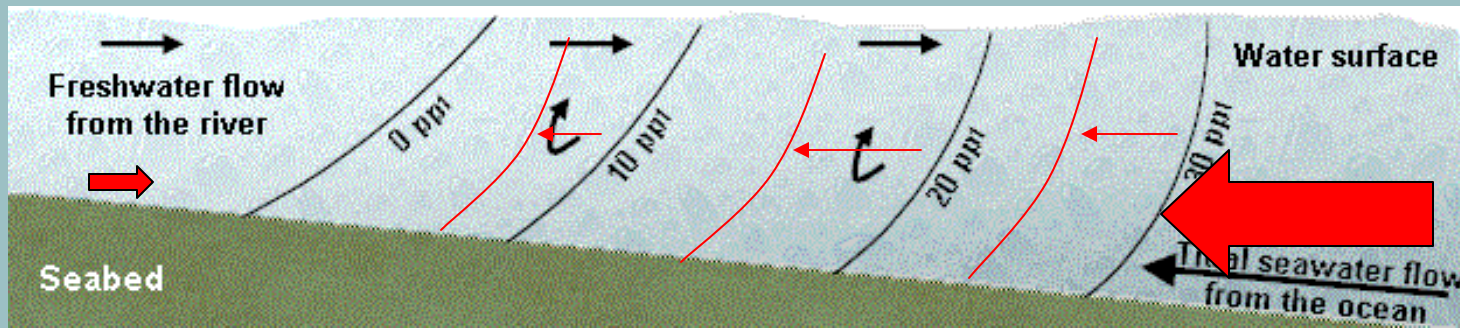
What happens when there isn't enough freshwater?



Mixing of fresh and salt water produces specific environmental factors – salinity, dissolved oxygen levels, temperature, nutrient levels



What happens when there isn't enough freshwater?



Mixing of fresh and salt water produces specific environmental factors – salinity, dissolved oxygen levels, temperature, nutrient levels



What happens when water quantity and quality changes?



Algal blooms



Disease and
parasites

What happens when water quantity and quality changes?



Overall system stress



So what can we do?

1. Recognize that we all affect water quantity and quality in our watersheds

- The average American uses 80 gallons of water per day. If you include the amount of water used to produce the food they eat, each person uses about 370 gallons per day.
- Little changes add up:
 - Leaky faucets and plumbing joints can waste up to 20 gal. per day.
 - Shorter showers, even by a one or two minute reduction, can save up to 700 gal. per month.
- Wasting water wastes electricity because the biggest use of electricity in most cities is supplying water and cleaning it up after it's been used!



So what can we do?

1. Recognize that we all affect water quantity and quality in our watersheds

Rain Garden

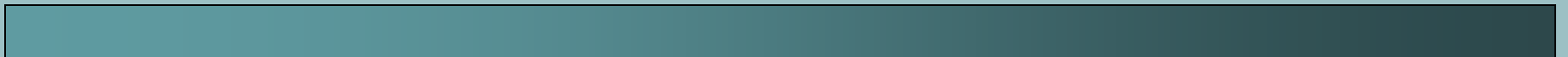
Stormwater

Pervious Concrete

Green Buildings

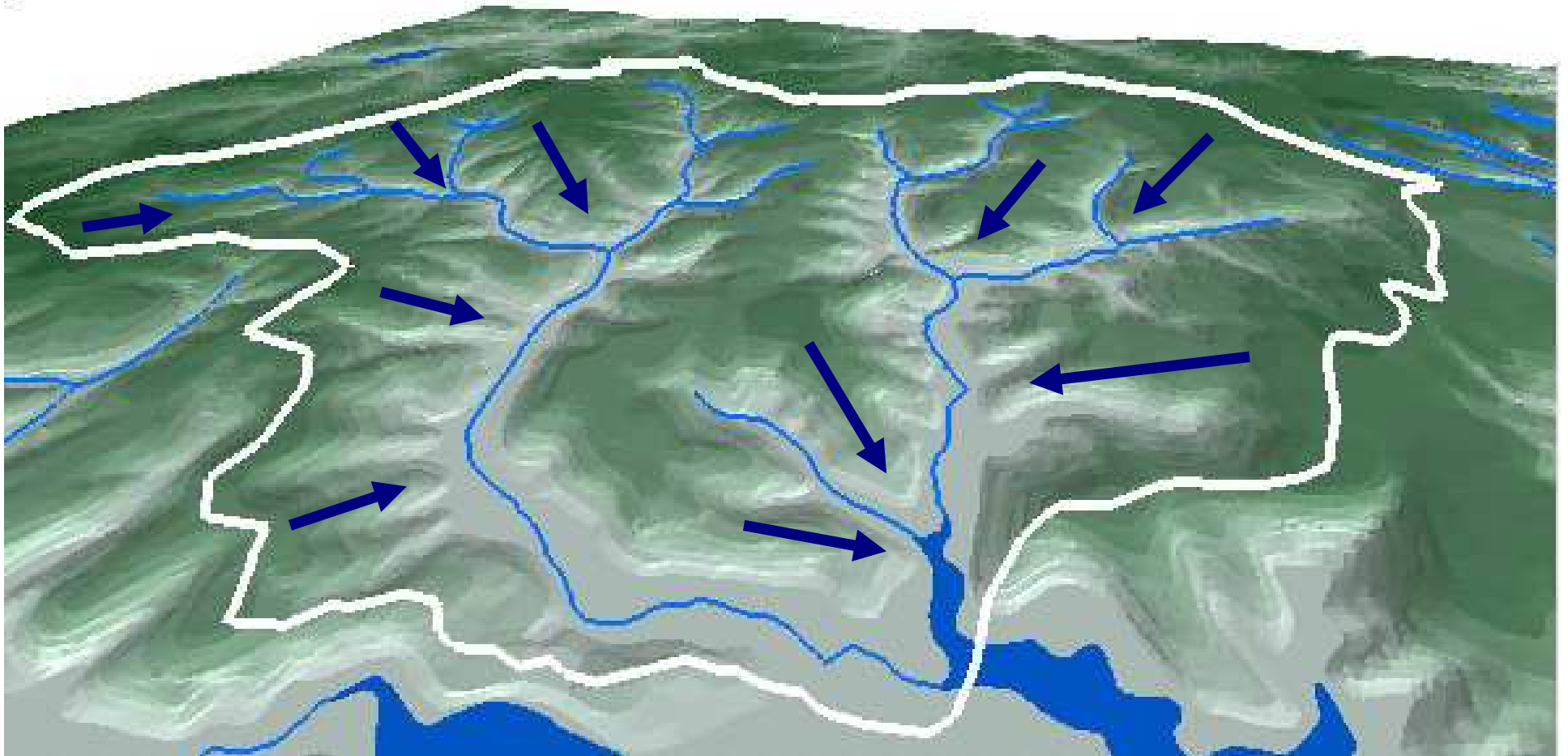
Green Infrastructure

Non-point Source Pollution



Consider your Watershed

A watershed is the area of land that drains to a particular point along a stream



Land-Use Changes



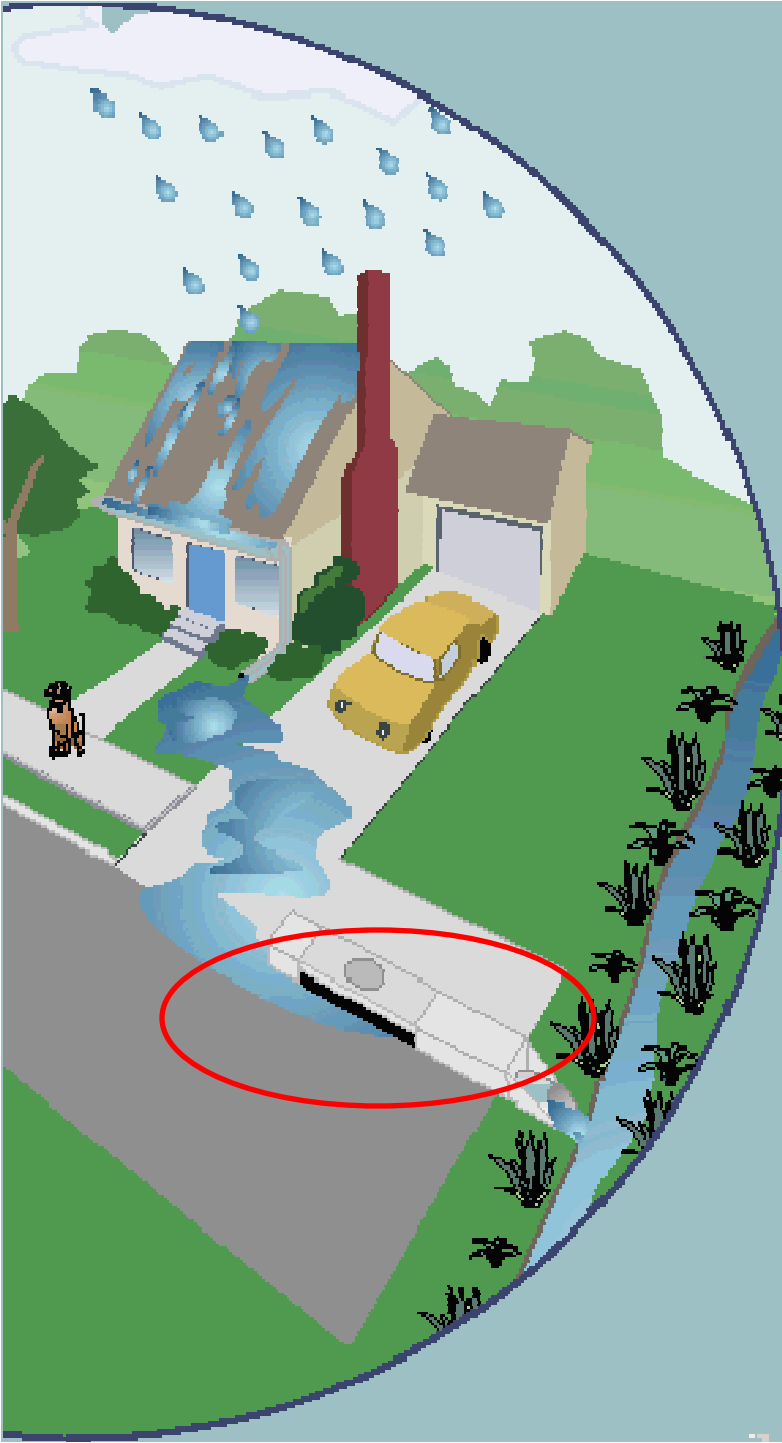
1994



1999

Impervious Cover





A cubic foot holds 7.481 gallons of water.

On average, Charleston receives 50 inches (over 4 feet) of rain each year.

That equals 31 gallons of water per square foot of roof each year.

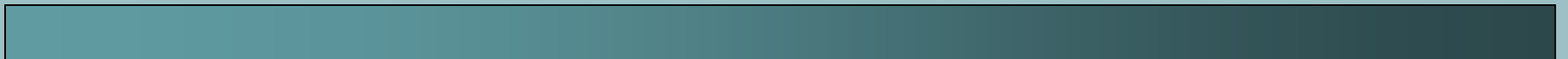
Your roof size can be estimated by taking the square footage of one story of your home and garage.

1000 square feet of roof x 50 inches of rain per year x 7.481 gallons of water =

About 31,000 gallons of water coming off your roof each year.

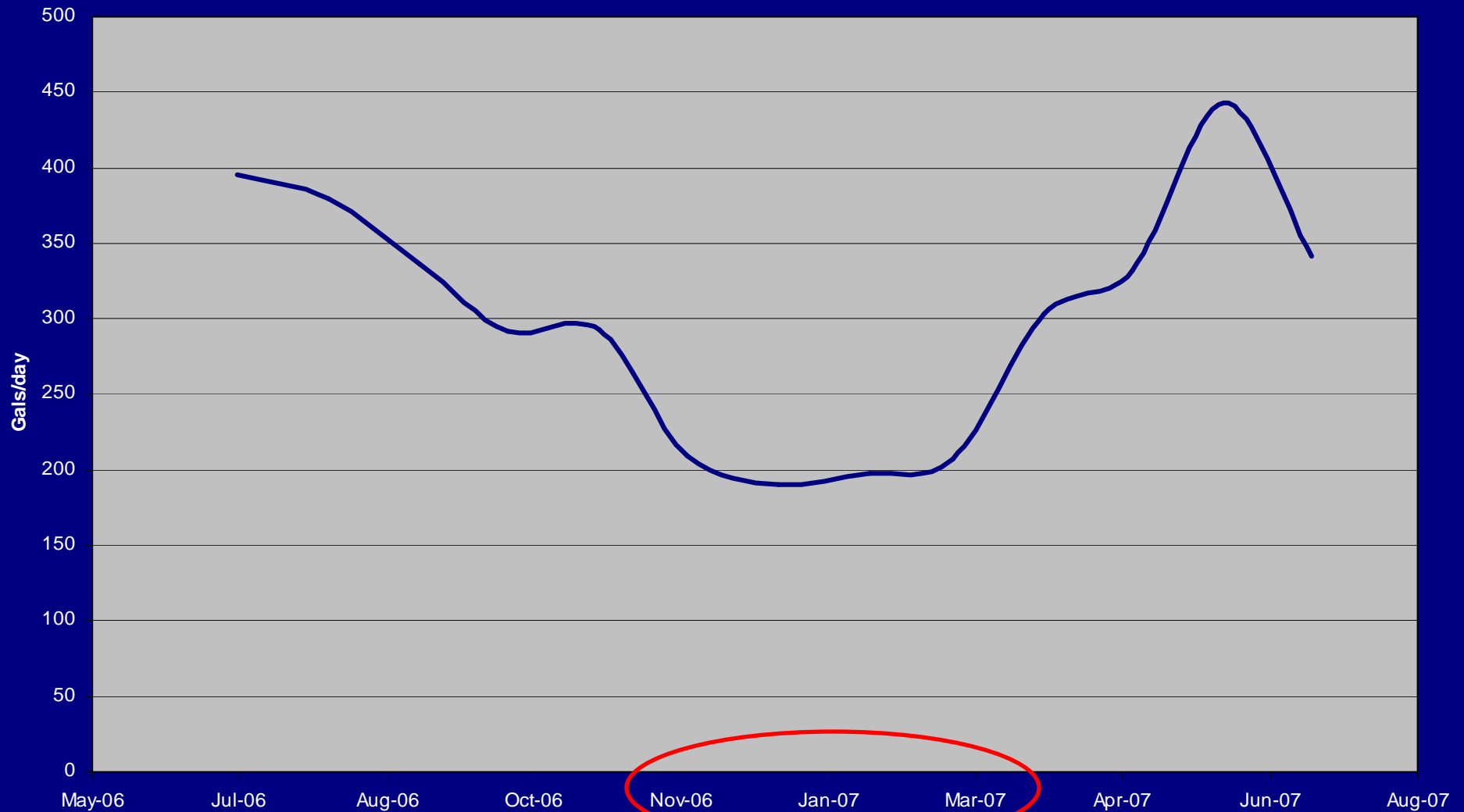
So what can we do?

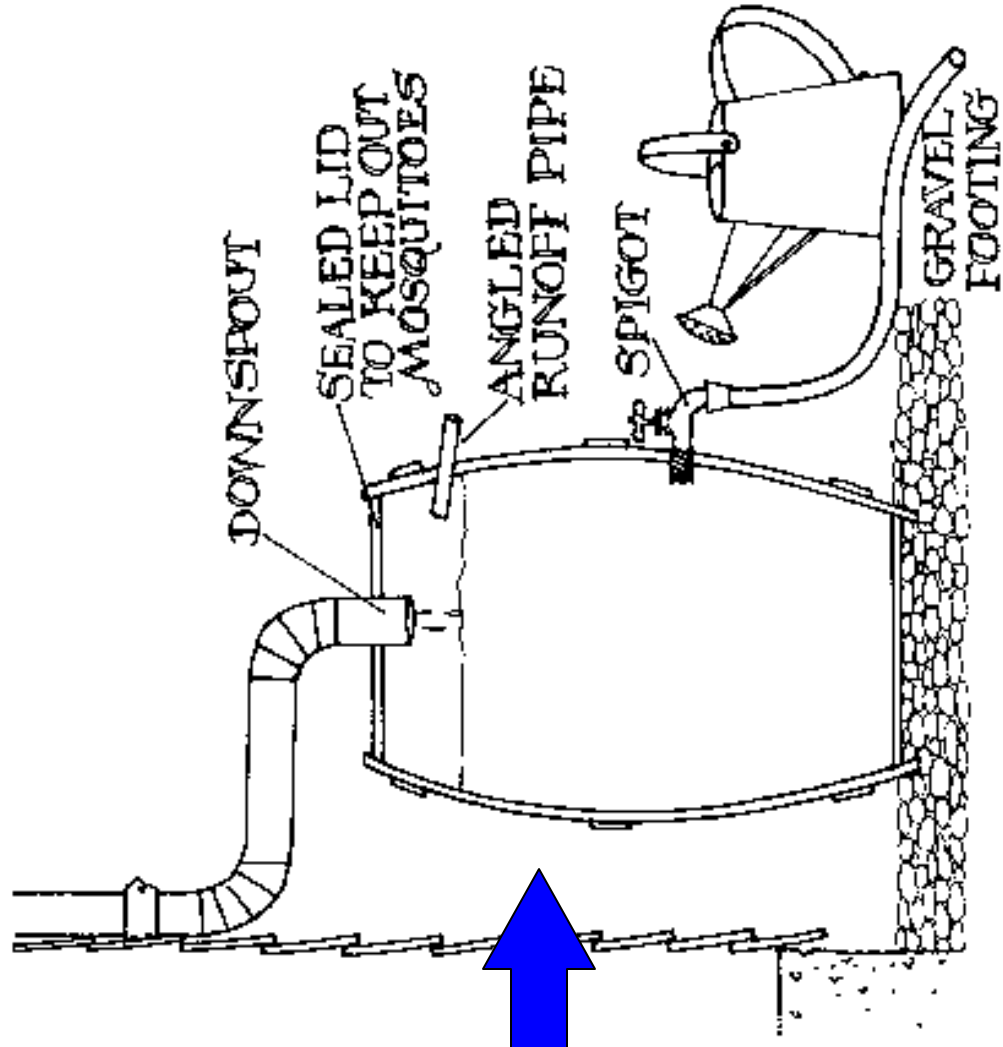
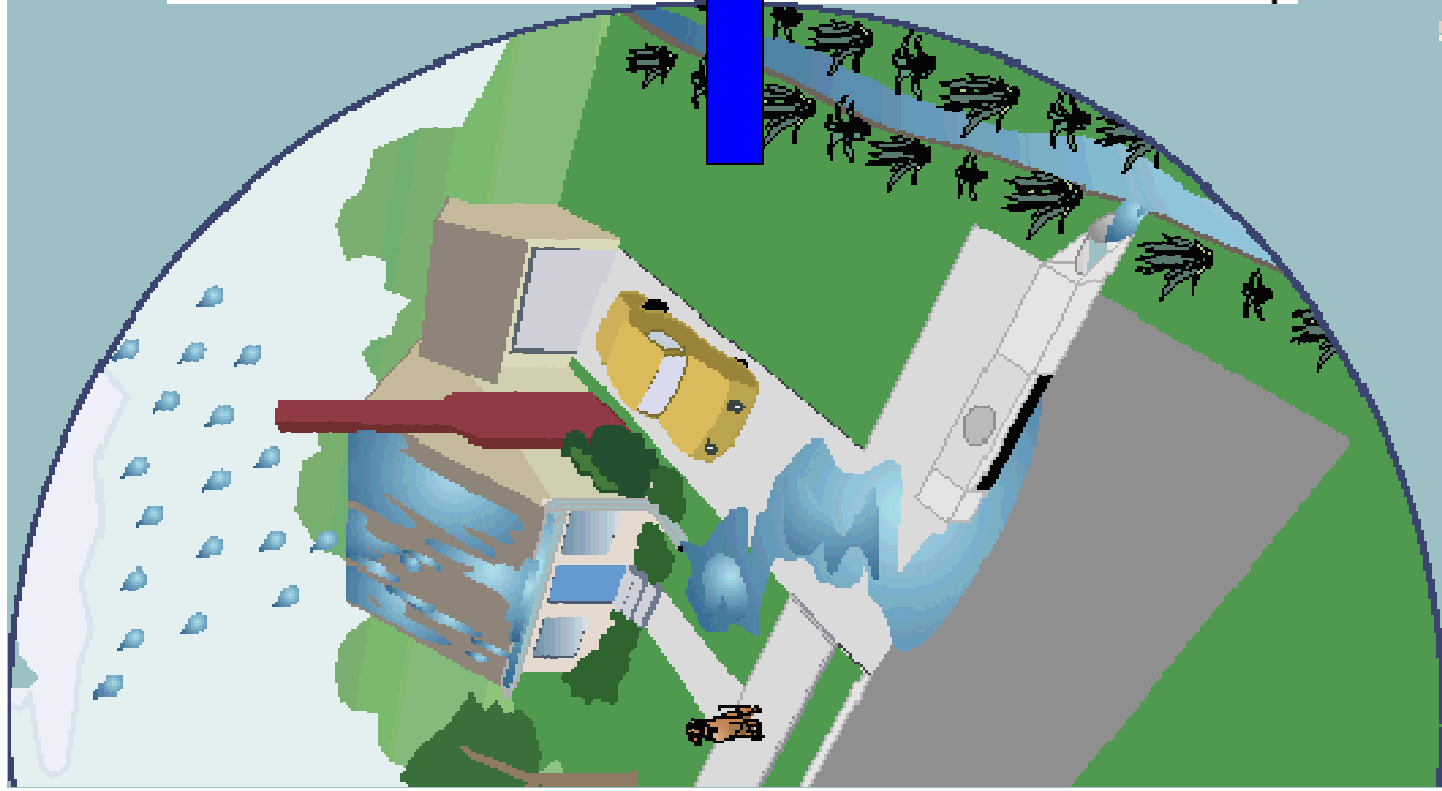
1. Help protect water quality and quantity in your watershed
2. Make changes at our homes:
 - Increase tree canopy/protect trees
 - Rain barrels
 - Rain gardens
 - Native landscaping



Beaufort-Jasper Water Sewer Authority

Average Annual Water Demand Cycle











So what can we do?

1. Help protect water quality and quantity in your watershed
2. Make changes at our homes:
3. Support changes in our cities:
 - Pervious surfaces
 - Stormwater control
 - Quality planning



Pervious Surfaces



Innovative
irrigation design



Purpose of the Town of Bluffton Stormwater Ordinance

Stormwater Ordinance authorizes the Town at a minimum to:

1. Define procedures for site plan reviews
2. Require sediment and erosion controls to protect water quality during construction
3. Develop post construction stormwater quality procedures to determine compliance with this ordinance
4. Prohibit illicit discharges to receiving waterbodies

Quality planning involves considering environmental, social, and economic factors

What natural resources should be protected?

Where should new businesses locate?

Where will students be educated?

What services will residents require?

Where should new homes be built?

Beaufort-Jasper Water Sewer Authority

Customer Use Extremes Compared to Averages





Quality of Life

